



STATE OF ARIZONA
EXECUTIVE OFFICE

September 3, 1991

FIFE SYMINGTON Governor

### Dear Students:

Arizona is counting on you to stay in school and become a vital and vibrant member of society. Career experts are now saying that for the jobs of the future, academic skills will be even more important. By the year 2000, to succeed in the job market, workers will need to possess good reading and verbal skills, problem-solving ability and interpersonal skills.

Additionally, the sweeping technological changes in the workplace are requiring more technical training for today's worker. Vocational-technological education in Arizona is changing and adapting to provide students and teachers with the most current information available.

I urge you to find out about the careers of the future by going to your local or school library or to your counselor's office and by reviewing this magazine. A world of opportunity invites you to use all your talents and abilities and to be a part of the American dream.

Sincerely,

Fife Symington GOVERNOR

### A M E R I C A N

### **Fall Edition 1991**

### On the cover:

Photo Courtesy of Richard Hutchings Richard Hutchings, Inc. New York

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### **TO OUR READERS:**

There are changes happening all around you that will affect your life into the 21st century-- and you may not be aware of them.

Most obvious are the events of the last 12 months in the Middle East, the Soviet Union, and Europe that have made headlines and history.

These changes will have a big impact on the U.S. economy, and on jobs.

Beyond these front-page changes are those changes often found on the back pages: new technologies, new products, new businesses, new opportunities.

The changes in the education system are also making news--everywhere. Vocational and applied technology education has been recognized as vital to the future--your's, our's, and the whole nation's.

More will be asked of you as a student because education, the primary energizer for change, is more demanding to meet today's needs.

As you move through this changing educational system, keep your eye on your future. It's yours to control. Realizing that may be the best change of all in your life.

Barbara F. Orwig Publisher

# APPLYING YOUR AGADEMIC SKILLS IN VOCATIONAL EDUCATION

### By Dr. Gerald F. Day

re you one of those individuals who learn better by doing? It has been said that we remember 10% of what we hear, 20% of what we see, and 90% of what we do. In vocational education, you will learn how to apply academic skills through hands-on activities and experiences.

The world is changing fast. You can expect to change careers six times during your lifetime. The adults of tomorrow will be required to learn new skills faster.

Enrolling in a vocational program can boot your "academic" learning. Academic content is being included in vocational programs throughout the nation. You can apply the concepts you learn in math, science, language arts, and the other subjects in your vocational programs. In addition, you learn more academic skills while you learn hands-on skills. For example, cosmetology students learn about chemistry, nursing students learn about biology, electronic students apply math and science concepts, and agribusiness students learn math and science content. You spend a lot of time learning math, science and reading skills to gain an understanding of the vocational subject you are studying.

New courses and programs are being added to the school curriculum that integrate academic and vocational content. Some of these programs are titled Principles of Technology, Exploring Technology, Applied Communications, and Applied Math.

Academic and vocational teachers are working together to provide practical and meaningful instruction to prepare you for the job market of the 21st century.

Be sure that you're prepared to meet that challenge- enroll in vocational education. You will be the winner.

### Are You An Equity Pioneer?

oes the word pioneer conjure up images of early settlers struggling in an unfamiliar land? Today, there is a new breed of pioneers who are changing America's workforce. Some of these pioneers might be in your school, classroom or neighborhood. Perhaps you have what it takes to be a twentieth century pioneer like Chris and Scott.

Chris is definitely an equity pioneer. As the only female in her school's welding program, she is breaking ground for other women who have similar high aspirations. As a young child Chris admired her older brothers' ability to build model airplanes, but could never convince her family that a girl could do that, too, As soon as she earned her own money, she bought her own kits and completed projects equal to her brothers.

In her welding class, Chris gets a lot of teasing about her work. But she has outstanding mechanical skills. Her sense of humor and persistence keep her focused on her goal of becoming an aeronautical engineer. She knows she will be well paid for her efforts.

Scott is active in sports, scouts, jazz band, and choir. Looking at this husky football captain you'd

never guess that he is a preschool teacher through the

Child Oriented Occupational Program at his school.

You might also be surprised that several child care centers would not hire him because he is not female. As a talented musician and outstanding athlete, Scott has many career options, but his number one goal is to teach special needs students in elementary school. He is the only male student in the program. That's fine, because Scott knows that he can make a difference to so many young children. He also thinks other guys might find success and satisfaction in this career. He is convinced that male preschool teachers are needed as role models to young children.

Today the number of equity pioneers is increasing. You frequently see men as secretaries or nurses and women as mechanics or fire fighters. With the same courage, conviction, and enthusiasm of the early settlers, nontraditionalists are opening new career frontiers. They are breaking barriers and

moving ahead.

Why don't you

join them?

# Equity Pioneer Profile

Persistent

I nnovative

Open Minded

NonConformist

Energetic

Eager

Resourceful

Sincere

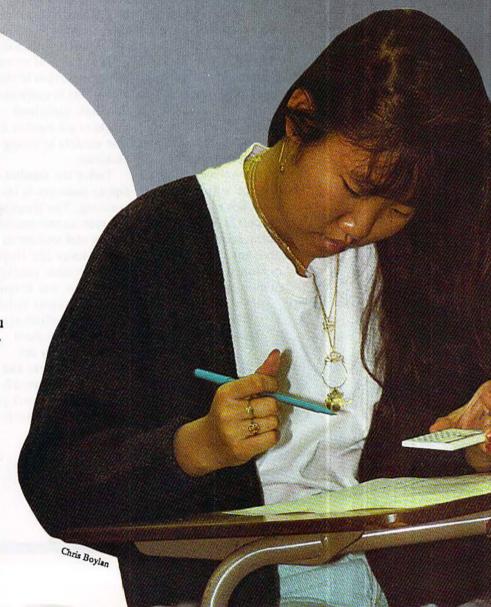
By Jenny Erwin

You see it all around you every day. It makes sense. It can help you get ahead and enjoy life. It certainly will make your day, every day of your life in the World of Work.

The "it" is Workplace Know-How, and you need it no matter what your education or career goals may be. Voc ed, pre-med, tech prep, you gotta have it.

You can't just "pick up"
Workplace Know-How. You
get to be competent little by
little, beginning with your
first "job"— school.

The job of learning is your first, most important, and longest lasting job.
And, the better you do from day one, the sharper your Workplace KnowHow. Call this day one.



### MANTANA.

### INFORMATION

### RESOURCES

You need to learn how to best use time, money, materials, and people resources. You set goals, and make priorities. Then you allocate time to those priorities and follow a schedule.

You prepare budgets, make estimates, keep records, and make adjustments to meet goals. You order and use supplies or space

Supervising others, you decide efficiently. who can do a job best, distribute assignments, evaluate work fairly, and provide thoughtful feedback.

### INTERPERSONAL SKILLS

Whatever your career or job, you will certainly work as a team member, contributing your share to the group effort, teaching others, learning new skills.

You will relate to customers or clients, working to satisfy their

When you are in a position of expectations. leadership, you will communicate clearly and accurately to persuade and convince others of your ideas

You will negotiate agreements and proposals. fairly, resolve conflicts, and work well with men and women of all backgrounds.

In this, the Information Age,

you must be able to acquire and evaluate information-words, pictures, numbers. Then organize and maintain that information, interpreting and communicating it

The one skill that you must when necessary. acquire that no previous generation needed is- using computers to process information.

### SYSTEMS

A system is a pattern or framework that explains how people or machines work. What makes them do what they do? In other words, you learn how

people relate to each other and get things done- or not done. In the same way, you learn how

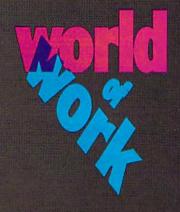
the systems of nature, of machines, of electronics all workor don't work.

It follows that you learn to spot trends, to anticipate and predict results, to pinpoint how and why the system is not working right. Then you figure out how to correct the problem, fixing something or coming up with a new way to do the job.

### TECHNOLOGY

Using technology has three parts or steps to master: choosing the right tools or equipmentincluding computers- to get the job done; setting up and applying the tools or equipment properly to the task; preventing and solving problems that may arise with the use of tools and equipment. Does anybody ever perform at

their greatest potential all the time? No way. These are goals or targets with stepping stones that begin every morning when you walk through the school door.





### WORKPLACE KNOW-HOW IN REAL-LIFE SITUATIONS

### **4 SCENES**

Point the Career Compass in any direction and you'll find hundreds of pathways to success. Each one is different, just as each one of us is unique. Each field requires specific skills and training. Even within any career field, every company or organization in that field is different.

But, they all share a need for people who have Workplace Know How. The

people in these scenarios have it. Will you?

Study these five stories and look for the decisions these people made that demonstrate their Workplace Know How. What are the factors they considered? Picture yourself in the same situation. Will you be ready? That's what your education is all about.



Luretta is the 26 year-old registrar in the emergency room of City Hospital, in a big west coast city.

She is the first person patients meet when they enter the hospital. She copes with crises everyday as people use the emergency room for routine health care or arrive with gunshot and knife wounds. Accident victims from all over

the area are frequently brought to City. Gang violence produces many severely wounded patients. Luretta needs every skill she has ever learned, from her high school voc-ed education to her medical services degree.

It is early evening when an ambulance crew brings in a local college student suffering from a drug overdose. Luretta processes his papers from information provided by the ambulance crew and turns him over to a Licensed Practical Nurse (LPN). As the LPN leaves, a gunshot victim staggers in on the arm of a friend. Luretta grabs the friend to get information on the victim and has

an orderly wheel the victim back to an examining room.

At that very moment, a distraught mother arrives with her twelve year-old daughter who is wheezing, clearly in severe respiratory distress. Neither speaks English. The girl is choking; the mother, unable to make herself understood, becomes hysterical.

Frank, a Registered Nurse (RN) who hears the commotion, arrives and takes the girl to an examining room. As the RN leaves, he instructs Luretta to get a doctor and an interpreter.

Luretta locates Dr. Paula Jones and then calls the

### MIKE MARKETS COMPUTERS

Mike learned about computers back in high school and kept learning on the job. Now he is the youngest salesperson at a computer store on Main Street in a small northeastern city.

Times are tough and business is very competitive. Every sales person is battling for customers and sales.

This week the store has a sale on laptop computers. Each member of the sales force who sells 10 or more laptops will personally receive one free for his or her own use.

Mike has kept a database of his customers and he quickly runs through it to find possible laptop buyers. Analyzing their previous needs, he is soon on the phone trying to reach to these prospects.

At that moment, a prospect walks into the store. Mike puts down the phone and gets to her before any other salesperson.
Asking questions, he learns this prospect owns a seven-person real estate company. She complains that her salespeople travel so much throughout the region that they cannot stay on top of mortgage rates from different banks or keep up with new listings throughout the area. As a result, they are losing sales.

Mike responds, "You've come to the right place. Portable computer-laptops-can solve this problem for you. And, we have a terrific sale on them right now."

"This model has a built-in modem. If you equip your cars with phones, your employees could download all the information they need just by dialing your office from the car.

"You also need a desktop computer at your office to answer the phone, so your sales people could connect with it directly.

"Or, you could use a software package called Real Estate Monitor which hooks up directly to an on-line information service that has current real estate listings and mortgage rates."



The customer is intrigued, but worried about the costs. Mike nods, "I understand that seven or eight computers is a big investment for a small firm. But let me ask you this. You tell me you are losing several sales a week because your sales force can't stay on top of listings and mortgage rates. If this system helps you gain just one of those sales a week, isn't it true that it will pay for itself in a month or two?"

"That may be about right," responds the prospect. "My name is Joan Lewis. Let's sit down so you can tell me just how much this is going to cost me."

Community Affairs office.
An interpreter gets on the phone with the mother and Luretta. The interpreter tells Luretta that the girl is asthmatic and that she has been treated at the hospital before.

Luretta smiles at the mother to assure her that everything is under control and then returns to her computer terminal to locate the daughter's hospital records.

Luretta hands a copy of the records to Dr. Jones who calms the girl and gets the asthma attack under control



by prescribing medication to help her.

Luretta is ready for the next emergency. She can handle the scene.



Kareem is a 26 year-old electronics specialist working as an electrician in an Automobile Assembly Plant (AAP) in the Midwest. After getting a vocational-high school degree in automotive trades, he worked for a year in a service station and then decided to get a 2-year degree in electronics at a

continued on pg 8

### SERVING THE THREE CHEFS

Greg, Anthony, and Kathleen are on the verge of seeing a dream come true—opening their own restaurant (The Three Chefs) in a growing southern town.

Each of them, at thirtysomething, has worked hard to prepare for this moment. Greg and Kathleen had taken food service in high school. Anthony had studied office systems but he also liked cooking and had taken food service courses.

For 10 years they had worked for restaurants, learning the business, pooling their savings, and borrowing from friends and family to raise the start-up capital they needed.

Greg, whose wife works, took out a second mortgage on his home to satisfy the local bank's demand for security to obtain a line of credit.

Greg serves as manager and

"front-of-the-house" shift supervisor during the day. Kathleen is the lunchtime chef and evening manager. Anthony trains the staff, does the bookkeeping, and prepares the evening meals.

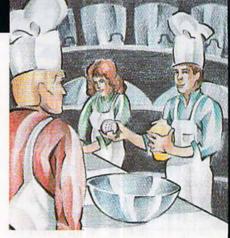
The restaurant has been renovated, painted, and furnished. Most of the new kitchen equipment has been installed. Four waiters and waitresses have been trained, actively working two practice shifts to iron out problems.

Kathleen and Anthony analyzed the workflow during the practice shifts and developed a plan for improving the kitchen's output by 20%..

They planned to start food preparation an hour early and move a work station to the front of the restaurant. They figured that the changes would cost them between \$7,000 and \$10,000.

If their projections are correct, they would be able to afford it after they made \$25,000 in sales— in three to four months.

They decide to make minor



adjustments to the system and avoid expensive changes until they see how the first two month's sales and expenses.

"Here's another way we can control our costs," says
Kathleen. "I've come across a new management software system that can help us produce inventory reports, sales records, and pricing charts. We can use the information to project our exact costs and make menu changes almost daily.

With precise information, the trio can make the most of their money. They can buy what they need at the time they need it so they can serve up the best food at the right prices. Three cheers for The Three Chefs.

### continued from pg 7

nearby community college.

Now he works in a plant with advanced equipment, including a new robotic painting system.

Because of his recent training, Kareem was involved in the selection of this equipment, with the engineering department.

But a problem came up: how to train people to properly use the system and keep it working right.

The company that produced the painting system had held some training sessions. But, after the trainers left, Kareem found himself frequently called to solve problems because he was the only electrician who understood how to run it.

Kareem was chosen to work

with the head of technology training at AAP and with the painting-system manufacturer to learn even more about how to run and maintain the system. Kareem helped improve the training system and reduce the need for the manufacturer to make costly service calls.

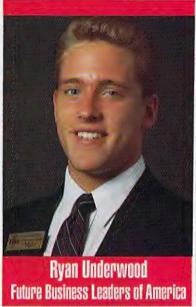
The new training was taught by Kareem, who had learned how to learn and how to present what he had learned to other workers. He was the respected, recognized expert in the use of computerized equipment. He could practically predict problems.

The other workers relaxed as Kareem patiently explained the system. The whole team



improved. All of them were more competent and confident. Kareem got a raise and plenty of praise. He was ready to take on more challenges.

### Students speak out...



ocational Student Organizations (VS0's) are a wealth of unlimited, exciting opportunities-to achieve and apply the competencies learned in the classroom to real world situations, VSO's prepare today's students to successfully meet the challenges of tomorrow's competitive world.

I became involved in Future

Business Leaders of America (FBLA) as a freshman. Little did I know that through four years of hard work and determination this would be the most important decision of my life.

FBLA is the largest student business organization in the world, which makes the opportunities even greater. In 1988-89 I was elected to serve as a state vice president for Oregon FBLA and in 1989-90 as state president. In the past four years I have had the opportunity to travel over 50,000 miles to represent the association and continue developing sound business leadership skills. Membership in FBLA has allowed me to network and learn from top business professionals and political leaders. During my travels I have attended over 25 state and national leadership conferences and interacted with future business leaders from around the world.

My most exciting experience was campaigning for National Western Region Vice President at the FBLA National Leadership Conference in Washington, DC. I remember vividly the rigorous campaign schedule, caucuses and speeches. I currently serve the 12 states of the FBLA Western Region. My duties include assisting the National Officer Team in implementing effective leadership and promotional programs as well as helping to conduct National Leadership Conferences.

I have learned through hands on involvement in VSO's that we are all leaders, and as leaders we must work as a team committed to excellence. I have learned to establish goals and channel my desire to achieve in accomplishing those goals. Above all, I have learned that the key to success is helping others to find success for themselves.



reflecting on my seven-year involvement in FFA, the memory bank instantly flashes back to my freshman year. It was a year full of firsts- the first chance to speak in front of a group, the first state FFA convention, the first opportunity to compete in

team contests, and the *first* time I was elected to a local chapter office. Each new experience brought with it a variety of inner feelings including excitement, uncertainty and increased self-confidence.

Adult role models in my life kept repeating that these experiences were "leadership training at its best." Were they? At that time, it wasn't the leadership skills that attracted me to FFA. Making new friends, traveling and having a group with which to identify were exactly what I needed to make the transistion into high school. To me, FFA was fun!

But somehow, while I was enjoying the fun and activities of FFA, I was also gaining leadership skills. As an FFA member, I learned that you must take that first step and get involved. Put all the jitters aside and take the risk of volunteering. Raise your hand in meetings and say, "Sure, I'll help!" It is grati-fying to realize that anyone who joins FFA can succeed. Success simply relies on the desire and motivation of the individual.

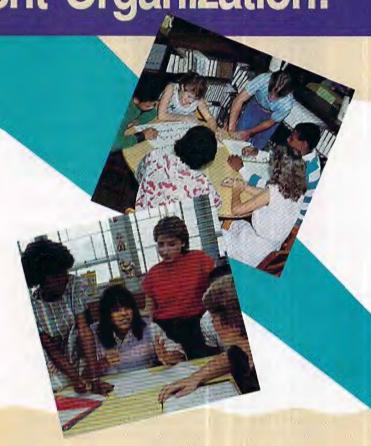
Although my time as an FFA member will soon come to a close, the experiences I have gained will forever remain a part of me- a culmination of people met, skills learned and values practiced. FFA provided me with a set of memorable firsts. FFA instilled in me the desire to see, learn and experience as much as possible. Having the curiosity to seek out those "firsts" and search for the best in life leaves me excited about my future, as well as the future of all those who have been inspired through participation in the FFA.

### Nine good reasons why you should belong to a

**Vocational Student Organization!** 

### As a member you will:

- 1. Develop a personal style of leadership
- 2. Prepare for responsible citizenship
- 3. Develop a commitment to work
- 4. Experience pride in accomplishment
- 5. Know the satisfaction of helping others
- 6. Build confidence and self-esteem
- 7. Develop decision-making skills
- 8. Learn how to work as part of a team
- 9. Open doors to professional opportunities



If you're one of the 2 million vocational education students in this country and want to know more about the excitement of belonging to a vocational student organization, contact a representative from your school or one of the following:

Business Professionals of America • (614) 895-7277

Distributive Education Clubs of America (DECA) • (703) 860-5000

National Future Farmers of America Organization • (703) 360-3600

Future Business Leaders of America (FBLA) • (703) 860-3334

Future Homemakers of America (FHA/HERO) • (703) 476-4900

Health Occupations Students of America (HOSA) • (800) 321-HOSA

National Postsecondary Agricultural Student Organization (PAS) • (518) 234-7309

National Young Farmer Educational Association • (703) 799-0594

Technology Student Association (TSA) • (703) 860-9000

Vocational Industrial Clubs of America (VICA) • (703) 777-8810



hen you look into the mirror, what do you see yourself doing in the world of work? Not sure? No sweat. Most young people are not sure where they are going until their twenties and most adults will actually change careers several times during their working life. So, relax and read on.

Many people, if they are honest, will also confess that they headed off in a general direction, stumbled around, and fell into what they were doing by a combination of work and learning. Sometimes happily, sometimes not. Right now, concentrate on the learning and then

inviting picture of your future, we call our analysis, a Career Compass.

We have made a moving picture of our economy that points out the potential in four directions with a dozen examples for each one.

Remember, each example may include hundreds of specific specialities or careers. And, each big industry or category involves people who design, manufacture, ship, sell, and service any of the products involved.

Each of the many specialties or careers involve both a general education and specific training skills.

## EED SOME DIRECTION? USE THE CAREER COMPASS

make your own luck by being trained and ready.

### A Frozen Moment in Time

What are the possibilities? Government and business groups often issue lists of the "20 Hot New Jobs" or "The Fastest Growing Occupations for the 90's". We publish them, too, because they give you an idea about what fields will need young people.

As a life guide, there are two things wrong with those lists. First, you may not see yourself in any of these "hot 20" or "fastest growing occupations." You may think there is just no place for you. Wrong.

Second, these lists are not dynamic images. Meaning, they are based on a frozen moment in time, a snapshot of the economy taken last year or projected from reports that are four, five, even seven years old. That list can be misleading, incomplete, and out of date. Discouraging, too.

### **Career Compass Points To The Future**

To help you get a more complete and

Here again, the line between vocational and applied technology education and general education is disappearing. Hands-on skills and expertise are needed along with a foundation in the basics for every career.

### A Wide Screen Picture

Our Career Compass outlines the full range of skills and services and technologies that drive our society.

Some are traditional and slow-changing. You find them everywhere; you use them everyday. Others are exotic and futuristic, still forming up.

Most are changing rapidly. Some are emerging and developing faster than anticipated, thanks to new discoveries or fresh opportunities.

Sometimes, a general skill such as computer expertise will give you better access to a field, leading you to some unexpected, exciting, rewarding career you never dreamed of.

Turn the Career Compass in any direction. Explore the future. It's all yours.

### YOUR CAREER

4 Directions • 48 Fields and Industries • Thousands You Into the 21st Century for an Interesting and

### SUPER TECH

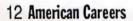
- 1 Adhesive and joining technologies
- 2 Aircraft and aerospace propulsion systems
- 3 Automotive/ground transport power trains
- 4 Composite and advanced structural materials
- 5 Disease control and prevention technologies
- 6 Electro-optical control and communication systems
- 7 Genetic engineering and other biotechnologies
- 8 High-speed precision toolmaking technology and equipment

- 9 Information storage and communication
- 10 Medical diagnostic systems
- 11 Micro-electronics, microprocessors, and other micro technologies

12 Non-fossil fuels and renewable energy systems

### SOCIETAL TECH

- 1 Advertising, marketing, media
- 2 Communication systems
- 3 Construction of buildings, bridges, roads and riverways
- 4 Education
- 5 Entertainment
- 6 Farming, fishing, forestry
- 7 Foods and food services
- 8 Health care, recreation, sports
- 9 Information processing
- 10 Military service
- 11 Transportation and travel
- 12 Safety, fire, and social services



### COMPASS GUIDE

of Careers In All Parts of Our Society That Can Take Rewarding Life in the World of Work

### **UP TECH**

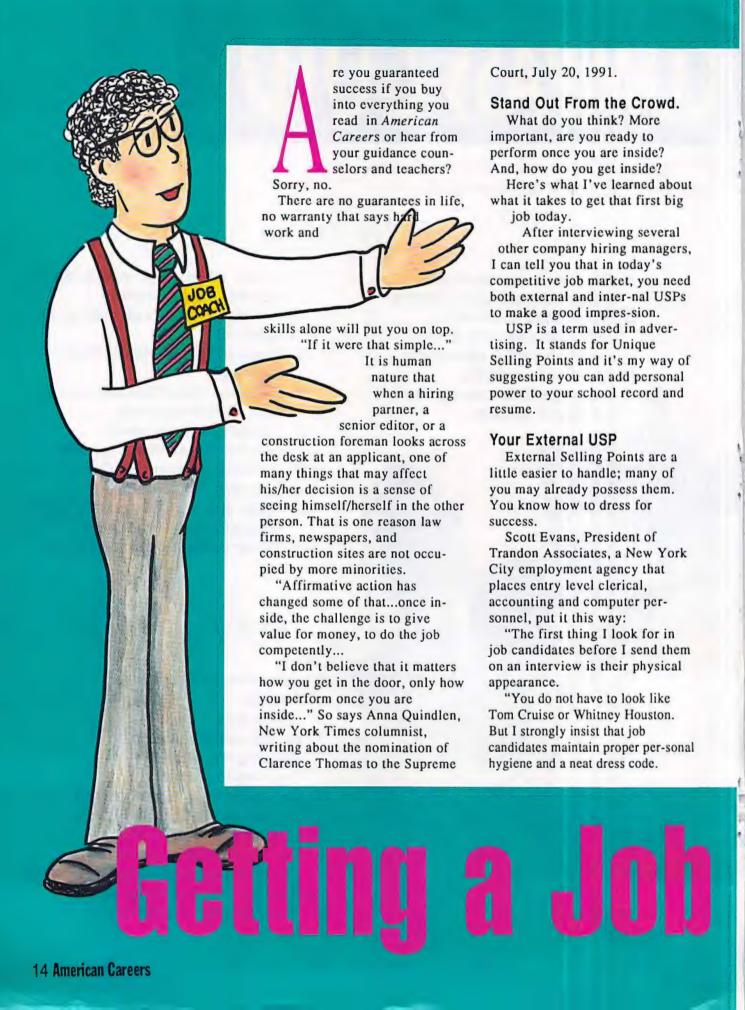
- 1 Consumer audio/visual entertainment technologies
- 2 Diversified multimedia software and easy-to-use, more powerful computers
- 3 Electronic controls
- 4 High-speed rail and ground transport systems

- 5 Home, office, and manufacturing robotics technologies
- 6 Information storage and access systems
- 7 Pesticide-free, high-efficiency farming
- 8 Pollution reduction and ozoneloss control systems
- 9 Portable and personal telecommunications systems
- 10 Printing, copying, and scanning equipment
- 11 Toxic and non-degradable waste disposal/control systems
- 12 Water resource management

### SERVICE TECH

Maintenance and repair of:

- 1 Aircraft
- 2 Appliances
- 3 Automobiles/vehicles
- 4 Building/housing
- 5 Clothing/footwear
- 6 Computers/office equipment
- 7 Dental and optical appliances
- 8 Electrical/power systems
- 9 Electronic equipment/tools
- 10 Furniture/wood/plastics/glass units
- 11 Heating and cooling systems
- 12 Water/sewage systems



"That means clean fingernails and hair, a suit for men rather than a sport jacket, and polished shoes. No flashy mini-skirts or wild jewelry for women."

"Those are just the basic 'musts' that will help you stand out and get a hearing. The old saying is still true: you only get one chance to make a good first impression."

The point is, given two candidates with very similar backgrounds, who is that person across the desk going to be more comfortable picking?

The one who looks and sounds like she/he is going to fit in with the other business employees and add something extra to the job.

### Your Internal USP

Your primary Internal USP is your education and the effort you have made to get your degree.

Employers assume you're a disciplined and responsible individual who has worked hard in school and received a diploma with respectable grades.

Anyone who seems to have walked through school will walk out without a job. For sure.

Ann Lukow, personnel executive of Saint Joseph's Medical Center in Yonkers, N.Y., looks for "articulate, responsible indi-viduals who have a proven track-record of completing what they started.

"I like candidates who make a good initial impression, are willing to learn, and ask good questions during the job interview." Does that sound like the ideas you've read elsewhere in this magazine?

### Speak Up

Communication skills are vital. You must be able to speak intelligently and convincingly about yourself, about your accomplishments, and what you learned from your school experience.

Every company manager I spoke to will favor the candidate who speaks English clearly, who makes good eye contact, and participates enthusiastically in the interview.

### Be Valuable From Day One

Finally, excellent hands-on skills that can be applied from day one in your new job are your single best advantage.

Susan Horan, the Human Resources/Training Manager at one of the country's largest business consulting firms, said this:

"We talk to a lot of potential entry-level employees for our office clerical areas. How do we select our new hires?"

"If you walk into my office with outstanding basic office skills—for example, a good attitude toward work, good spelling, good typing, and especially, word processing skills—Towers Perrin (Susan's organization) is very interested in you."

Will the company, business organization, or government agency you are interested in be interested in you?

# What Does It Take?



### in the 90's



### WOOD WORKS

Ever watch a house being built? The wood frame goes up much the same way houses have been built for centuries.

Today, wood products account for about 15% of the cost of constructing a house and about 9% of the price. The expensive items are the land and the labor—the work of carpenters, electricians, masons, and other craftspeople. All of these careers will continue to be in demand.

Cutting down forests to build houses or make paper and packaging changes the land. Forests are home to many plants, animals, birds and insects that keep nature in balance.

Trees can also prevent the land from being washed away and turning into hard, dry, poor soil that cannot support crops without chemical fertilizers and costly irrigation.

Is that the price of progress? As earth temperatures rise and water in much of the U.S. becomes scarce, we will have to find some new balance or face big problems.

Careers that help us make better use of trees, water, and land for crops will be important in the 21st century.

### **On a Day Like This**

On an average day...

134,000,000 Americans eat out.

The average family spends about \$13.75 shopping for food.
Of this, nearly \$4.95 is spent by female teenagers.

37,000 cars are sold.

105,110,000 Americans read a newspaper Of this total, 86,200,000 read the sports page.

116,500 Americans move.

3,425,000 Americans take a trip.

4 people call Graceland and ask to speak to Elvis.

So reports Tom Heymann in his Fawcett paperback, "On An Average Day."

### Want to Work While Going to School? Legal Limits Help You Think Twice.

Should you work while you are going to school? Most experts say your health and your studies suffer.

Sometimes it is important but you don't risk your one chance to make the most of your education for the price of high tops, concert tickets, or a big party.

In a few years, that money will seem small stuff compared to the salary you'll make holding a good job that your education helps you qualify for.

Meanwhile, federal law limits 14-15 year-olds to 18 hours of work a week while in school.

Some states also set limits for 16-17 year-olds.

### REALITY

Today more than 120,000,000 people live within 50 miles of the coastline of the U.S.

### Driving a 2-Door, 3-Speed Computer

When we talk about computers we don't always mean keyboards and screens, especially in cars.

Computer-controlled systems, using tiny chips, are taking over more and more tasks in automobiles, making driving easier and safer.

But they also make cars more complicated and costly. You have a real future when you understand how to install and maintain the computer controls of:

- Engine fuel ignition systems
- Automatic transmissions
- Automatic headlights
- Air bags
- Antilock brakes and suspension systems
- Self-adjusting suspension systems
- Electronic gauges and display graphics
- Elimate controls
- Cruise controls
- Variable assist power steering

### What's For Lunch?

Tuna is the number one fish food in America and has been for 20 years. The average American eats about 3.7 pounds of it a year, 99& of it canned, according to the National Fisheries Institute.

Number two on the fish hit list is shrimp—2.2 pounds per person. Cod is number three and moving up on the charts from #8 to #5 is salmon.

Seafood has become scarce in many coastal waters because of pollution, overfishing, and 10 mile long nets used by foreign flating fish factories, mostly Japanese

As a result, fish farms are growing more popular as small businesses. In the future, we Americans may find ourselves eating more suring, a processed seafood.

Changing conditions mean new opportunities. Chew on that one when you think about careers in the food industry.



### When They Say GO,

### RESISTING PEER

It's a brand new semester, time to learn new skills, make new friends, have new adventures. But for many students it's also time to fight an old battle-peer pressure!

"We have major problems in our school," Victor Mireles, 17, of Welaco, Texas, told me. "A lot of people drop out, often because they hang out with kids who have quit school."

"These kids tell others,
"Drop out! Why do you want to
go on?" Some of them drink
every day.We live ten miles
from the Mexican border, so
it's easy to buy alcohol or
drugs."

"For some kids it's very hard to say no- even when the price is their whole future."

Today there is a crucial reason to fight negative peer pressure and prepare for the future. Without a high school diploma, you'll discover that jobs are hard to find, the pay is low, conditions are miserable, and you'll be in the same awful place for years—if you aren't fired. A recent report by the National

Center for Education and the Economy says that without better skills and training, future job seekers will have a lot of trouble finding and keeping work.

Some unprepared people won't find jobs at all. The report, called America's Choice: High Skills or Low Wages, emphasizes staying in school

and learning valuable job skills.

That's what vocational education is all about.

### Why is it Hard to Say No?

Peer pressure is part of the human condition. But it is especially important to young people between 12 and 18. As one expert puts it: "Teens are looking into a mirror and saying 'Who am I?' That mirror is their peers."

Peer pressure can either help you or hurt you. One friend can encourage you to study hard. Another friend may tell you there's no point in studying at all. It's up to you to figure out which friend has your best interest at heart.

Why is it so hard for some teens to say no to negative peer pressure? Many experts agree on three key reasons:

### 1. Lack of a support system.

Some teenagers grow up in a family that isn't able to offer positive support. Single parents and working parents may not have the time or patience to help you cope or be there when you need help.

Some parents themselves may have had problems at school, with alcohol or drugs. It's not surprising the teenager looks for friends who reinforce that lack of support.

### 2. Personal problems.

Low self-esteem is the major problem. "When you don't feel good about yourself, you don't feel there's much you can do well," one expert points out.



### Can You Say PRESSURE

"It's easy to depend on somebody else to tell you what to do with your life. And chances are that person will have the same low feeling as you."

### 3. Real-life conflicts.

Money and social problems beyond your control make it harder to keep trying. But if you don't try hard, your chances of success are limited.

Cecilia Lopez, 18, of Detroit, Michigan, used to stay home from high school for days at a time. She had a hard time reading and learning. Her peers only made it tougher.

"Everyone used to tease me, saying, 'You're retarded, you're ugly, you're fat.' I started to believe it. I'd fight back and dig something up about them that I knew would hurt, too."

"Inside, I felt bottled up, but when I was alone I'd cry all the time."

Cecilia came close to dropping out. But she found a program in her area called Twelve Together. A support group of teens (along with teachers) encouraged her to go back to her classes and really study.

They tutored her every week in reading and math. They listened to her talk about painful feelings and gave her caring support.

Now her grades are much better, and she never skips a class. Cecilia especially looks forward to her vocational education class in horticulture. "I'm planning to be a florist," she says.

### What Can You Do?

If you or a close friend have a

problem with self-esteem and negative peer pressure, there are steps you can take to turn your life around.

First, think about the future you want for yourself. Close your eyes and picture the way you would like your future to be. Don't think of what someone else has in mind for you. Think only about what you want.

Write down your goals, even if they seem hard to reach. Then think about what you might do to reach those goals. What classes, skills, or training you would need? When things start closing in on you, re-read your goals statement. Concentrate on that- and what you can do right now to get out of that depressing mood.

Second, find someone, or a support group, to talk to about your future. Think of a friend or adult you trust. It might be a neighbor, teacher, counselor, or clergyman. Or find out if a peer group exists in your school. Then talk about your goals. Others can help you put your future back on track.

Third, find ways to say no to negative peer pressure. You may have to give up on a dead-end crowd and find new friends. And that's not easy, because in the short term, it could mean toughing it out alone.

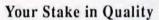
But, in the long term it means changing your life so you can look forward to a happy, successful future. As Cecilia says, "There really is help for you out there. And when you find it, don't let go."



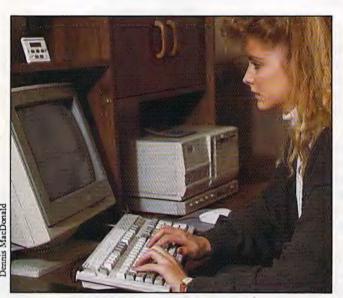
## How Good is Good Enough?

### HOW ABOUT 6 O

hen you enter the world of work, chances are you will be working with machines or high tech systems that go beyond the ability of the human eye, hand, or mind to match or measure.



The goal is quality, world class quality because American producers you will work for must compete with producers from other nations. In a way, you are competing with young people from many other countries with lower standards of living. Workers in those countries are accustomed to working for one third the salary you could accept- or live on. So, what their countries produce will cost much less than the same products made here. If some other country is producing the same things the U.S. is selling, for less, the only way to compete is on quality not price.



### Smart Machines, Smart Workers

How do you define quality? Being able to make things without defects or failures— or as close to 100% perfect as possible through a combination of machines and human beings. The smarter the machine is, the faster and better the production, and the better trained and capable the human is, the higher the quality.

### The 99% Disaster

How high? Does 99% perfect sound good enough? Imagine

how you'd feel if your test scores and grades were all 99%? But that's not good enough in world class production competition.

In fact, if you want to know what disaster looks like, picture everyday life in the USA that is 99%

perfect. No electricity, water or heat for about 15 minutes a day. Unsafe drinking water almost four days a year. 5,000 incorrect surgical operations every week. 200,000 wrong drug prescriptions filled each year. 20,000 articles of mail lost every hour. Two landings that are neither short of the runway or too long—every day at most major airports. In mathematical terms that quality level is defined as 3σ or 3 Sigma. That's 2,700 defects or reject parts out of each million.

### Six Sigma is the Secret

What should American quality standards be? Several top

### world



executives of Motorola, Inc. are determined to achieve "6 sigma by '92." Motorola, Inc. is one of the few American companies making chips in the face of the fierce competition from companies in Japan and other Pacific rim nations. The people who work there know what world class competition is all about.

Six sigma means 99.996% perfect or about 3.4 errors or rejects per million. Some difference! That could be the difference between life and death.

One expert says most
American manufacturing and
service companies are at 4 $\sigma$  or
5 $\sigma$  level at best. A leading
Japanese industrialist is pushing
his company to zero defects.

### Just One Bad Part

If you want an idea of how complicated that challenge is, picture a product, say a car, with 1,200 parts. With a three sigma quality level, there will be an average of 3.24 defects among each set of those 1,200 parts. Some parts will have zero defects; some many more. It gets worse when you put those 1,200 parts together to assemble your cars.

The cumulative effect, according to mathematical calculations, means that your car production quality stinks: only 40 cars out of every 1,000 cars (with those 1,200 parts) will be entirely free of defects! Anyone for a bicycle?

The same principle of six sigma quality applies to any industry or type of work, whether you are wiring new buildings or analyzing blood samples. Someday you will be working for a company that must reach beyond the six sigma level to survive in 21st century world competition. Are you gearing up for that quality performance level? That is what your academic, vocational, and applied technology education can do for you. Better grab it.

# Everyday Life at 99%

- No electricity, water or heat for about 15 minutes a day.
- Unsafe drinking water almost four days a year.
- 5,000 incorrect surgical operations every week.
- 200,000 wrong drug prescriptions filled each year.
- 20,000 articles of mail lost every hour.
- Two landings that are neither short of the runway or too long— every day at most major airports.

In mathematical terms that quality level is defined as 3s or 3 Sigma. That's 2,700 defects or reject parts out of each million.

### What Are You Going To Be?

### Read Your Inner Map

By Doc Wise Guide

Doer?
Investigator?
Activist?
Helper?
Enterpriser?
Detailer?
Whatever direction your inner map points you, there are three reasons why you should follow your feelings:

- You'll be more successful when you're doing something you like.
- 2. You'll be happier and more successful in your personal life.
- 3. You'll relate to others better when you feel good about yourself.

o what are you going to be when you grow up? If you haven't asked yourself that today, it's probably because everybody else has. Your parents, your relatives, your best friend, your favorite teacher--they all care about you, but sometimes their questions about your career choice can just add to your confusion and fear.

Before you say, "I don't know," for the umpteenth time, you may be able to get some big clues by reading your inner map. That means, find out what your real interests are and follow them to a satisfying, rewarding career. That's the only way to go.

Somebody--maybe your own inner voice-may be pushing you into something "practical" or "just right for you." Don't get trapped into following someone else's plan, denying your own personal interest, or trying to become something that goes against your basic personality. It won't work.

Psychologist John Holland studied the problem of making career choices. He concluded that people are drawn to certain career interests according to their personality type.

Holland identified six general types and designed a national career guidance exam to help people make the right choices.

Our checklist is adapted from Holland's work which, he points out, grew out of his own career crisis. "I was baffled about my future for so long, that I got interested in how people decide their careers."

To help you decide yours, follow three steps on How to Read Your Inner Map.

### First, make an inventory of your interests.

Not everybody falls into just one type, Holland explains, you may have the character traits and interests of two or even three personality types. But chances are you belong to one general type more than the other five.

After all, there are certain activities you'd rather do than anything else, right? When you discover a pattern to your interests, you end up with a focus for your career future.

### Second, add up your scores.

You'll see a pattern that will help you to evaluate yourself.

### Third, evaluate yourself.

When you have determined the one or two types that seem to best represent you, then study the Six Personality Career Directions.

You'll find some specific fields that suggest what you may be when you grow up--after you have had the education and training that will prepare you to succeed.

### **How To Read Your Inner Map**

Make an inventory of your interests. Check the activities or career fields that interest you, whether you know much about them or not. Have someone who knows you well add their opinion about you, too, as a guide.

| 1.             | (Name of 1977)   | noise in    |              |            | You            | Other                           |  |                                   |                        |            | You   | Other    |
|----------------|--|-------------|--------------|------------|----------------|---------------------------------|--|-----------------------------------|------------------------|------------|-------|----------|
|                | Work on  | a farm or   | help save a  | rainforest |                |                                 | 25.  | Work o                            | utside in a national   | park       |       |          |
| 2.             | Solve cor  | nplicated n | nath proble  | ms         |                |                                 | 26.  | Resear                            | ch a law case          |            |       |          |
| 3.             | Act in a n   | novie or pl | ay           |            |                |                                 | 27.  |                                   | musical instrument     |            |       |          |
| 4.             | Study so   | cial groups | in society   |            |                |                                 | 28.  | Work w                            | vith babies or childre | en         |       |          |
| 5.             | Interview  | strangers   | for the TV i | news       |                |                                 | 29.  | Run fo                            | r class office         |            |       |          |
| 6.             | Learn about and study the economy  |             |              |            | 30.            | Work after school to save money |  | money                             |                        |            |       |          |
| 7.             | Study "how-to" mechanics manuals   |             |              |            |                | 31.                             | Set up a stereo system   |                                   |                        |            |       |          |
| 8.             | Perform science lab experiments  |             |              |            |                | 32.                             | Read science fiction   |                                   |                        |            |       |          |
| 9.             | Manage an art gallery  |             |              |            |                | 33.                             | Write a short story, play, or novel                              |                                   |                        |            |       |          |
| 10.            | Conduct a religious service  |             |              |            |                | 34.                             | Entertain at a party   |                                   |                        |            |       |          |
| 11.            | Bargain at a flea market   |             |              |            |                | 35.                             | Work in a politician's office                                    |                                   |                        |            |       |          |
| 12.            | Write up graphs of charts with statistics                                  |             |              |            |                |                                 | 36.  | Keyboard documents into computers |                        |            |       |          |
| 13.            | Build cabinets or furniture  |             |              |            |                | 37.                             | Build a jet aircraft model                                       |                                   |                        |            |       |          |
| 14.            | Study nature outdoors or trace the effects of pollution on the environment |             |              |            |                | 38.                             | Use an electron microscope or high-<br>tech medical instrument   |                                   |                        |            |       |          |
| 15.            | Write a movie screenplay   |             |              |            |                | 39.                             | Design a new line of clothes                                     |                                   |                        |            |       |          |
| 16.            | Lead a club or scout troop   |             |              |            |                | 40.                             | Read and discuss literature                                      |                                   |                        |            |       |          |
| 17.            | Buy merchandise for a store  |             |              |            |                | 41.                             | Debate political and social issues on TV                         |                                   |                        |            |       |          |
| 18.            | Work nine to five in a corporate office                                    |             |              |            |                | 42.                             | Keep accurate records of a business                              |                                   |                        |            |       |          |
| 19.            | Operate heavy machines   |             |              |            |                | 43.                             | Repair a car engine  |                                   |                        |            |       |          |
| 20.            | Play chess   |             |              |            |                | 44.                             | Identify constellations of stars                                 |                                   |                        |            |       |          |
| 21.            |  |             |              |            |                |                                 | 45.  | Take pottery classes              |                        |            |       |          |
| 22.            | Get involved in a charity or community organization                        |             |              |            |                | 46.<br>47.                      | Work with senior citizens<br>Sell products on commission         |                                   | 00                     |            |       |          |
| 23.            |  |             | B FACCUES CO | les week   |                |                                 | 48.  |                                   |                        |            | 0     | 0        |
| 24.            | Do fast-paced, high-pressure sales work Design computer games and programs |             |              | ö          | 0              | 40.                             | Set up a budget for running a large company or government agency |                                   | U                      | U          |       |          |
| 60.00          | circle ev  | ery num     | ber you      | checked    | off. F         | or exam                         | ple, if y  | you che                           | cked "Work on          | Farm," cir | cle i | numbe 1. |
| elow,          |  | 7           | 13           | 19         | 25             | 31                              | 3  | 7                                 | 43                     |            |       |          |
| elow,<br>A.    | 1  |             |              |            |                |                                 | -  | 0                                 |                        |            |       |          |
| _A             | 1 2  | 8           |              | 20         | 26             | 32                              | 38   | 0                                 | 44                     |            |       |          |
| A.<br>B.       | 1 2 3  | 8           | 14           | 20<br>21   | 26<br>27       | 32<br>33                        | 3  |                                   | 44<br>45               |            |       |          |
| A.<br>B.<br>C. | 3  | 9           | 14<br>15     | 21         | 26<br>27<br>28 |                                 |  | 9                                 |                        |            |       |          |
| A.<br>B.       |  |             | 14           |            | 27             | 33                              | 3  | 9<br>0                            | 45                     |            |       |          |

### **Evaluate Yourself**

Next, transfer your total for each line above to the proper spaces below. For example, if your total for line A is 4, write the number 4 on line A below.

| A. DOERS   | B. INVESTIGATORS | C. ARTISTS   |
|------------|------------------|--------------|
| D. HELPERS | E. ENTERPRISERS  | F. DETAILERS |

In what two personality types did you score in the highest? Write their names in the blank spaces below.

If you had another person fill out your interest inventory, in what two types did that person score highest for you?

How can knowing your personality type lead you to a satisfying career future? Read on.

If you love working with your hands, chances are you're a "doer." You get a kick out of building, tinkering, and fixing things. Using tools comes naturally. You may prefer "doing" to "thinking," and concrete problems to abstract problems. Many doers grow up to have "hands-on" careers.

Mechanics

Air Traffic Controllers

Hairdressers

Physical therapists

Farmers

Construction workers

Carpenters Truck drivers Dressmakers Firefighters Dental assistants Locksmiths

Electricians Computer repairs/specialists

Chefs Caterers Plumbers

X-Ray Technicians

### HEI PERS

Have you ever imagined yourself teaching people new skills or helping them with their personal problems? Working with others may be perfect for you. Helpers are expert communicators. They love to talk and listen. They work well in groups and interact well with all kinds of people.

Mental health specialists

Social workers Teachers Clergymen Nurses Dietitians Personnel workers Information clerks Child care workers Travel agents Airline personnel Sales people Receptionists Waiters, waitresses Office workers Home health aides Government staffers

### INVESTIGATORS

Investigators are observant and curious about the world around them. They have a feel for gathering and figuring out information. Many investigators love science, math, or history. They may prefer to work more on their own than with others. Does this sound like you?

Doctors

Science lab workers

**Paralegals** Police detectives Librarians Engineers Geologists Data analysts Pharmacists Medical assistants Reporters Military analysts

Veterinarians

College professors

Lawyers

Consumer researchers

Astronomers

Computer Security Specialists

### **ARTISTS**

If you're artistic, you feel the need for self-expression. Artists are imaginative and creative. They often love working freely and put their emotions into their work. Artists may work with words and pictures or music and dances. They also work with materials and machines that produce artistic products.

Musicians

Writers and journalists Architectural draftsmen

Teachers

Advertising personnel

**Painters** 

Interior designers

Florists

Clothing designers

Photographers

Editors

Illustrators

Landscapers

Actors and dancers

Recording Technicians

Display Makers

Lighting Specialists

### **DETAILERS**

Career Counselors

If you find detail work a cinch, and think you might enjoy such work as analyzing information or operating business machines, you're a "detailer." Detailers often like being part of large companies, though not always in leadership positions. They love steady routines and have a good feel for numbers and facts.

Medical records managers

Accountants

Lab Technicians

Computer programmers

Cashiers Auditors

Office clerks

Credit managers

Hotel clerks

Bank tellers

**Proofreaders** 

### ENTERPRISERS

Enterprisers often have strong leadership qualities. They enjoy organizing activities for people and taking personal or financial risks. Often competitive, enterprisers like to persuade others to see the world their way. Enterprisers may often combine some of the social skills of "helpers" and hands-on skills of "doers."

Finance specialists

Independent businessmen Real estate workers

Reporters

General managers

Wholesale buyers

Insurance underwriters

Public relations executives

Administrative assistants

Sales people

Recreation workers

Retail store owners

### WHERE DO YOU GO FROM HERE?

Now that you've traced your interests to the workplace, continue thinking about your career future. Explore a variety of classes and talk to a guidance counselor and teachers. Check with your school or local library. Get as much information as you can about the career fields that interest you. By getting a head start, you put yourself on the path to a successful career.

### Arizona's

### CAREERFEST '91

CAREERFEST '91 provided students occupational exploration through seven career worlds: Agriculture Occupations, Arts Occupations, Business Occupations, Health/Medical Occupations, Home Economics/Life Management Occupations, Industrial Occupations and Marketing/Management/Entrepreneurship.

A special thanks to the CAREERFEST '91 CORPORATE SPONSORS

ARIZONA PUBLIC SERVICE Mr. Ruben Sanchez, Director Human Resources

GARRETT Mr. Bill Reavis, Manager Public Relations

INTEL Mr. Harry Hollack, Manager

MARDIAN

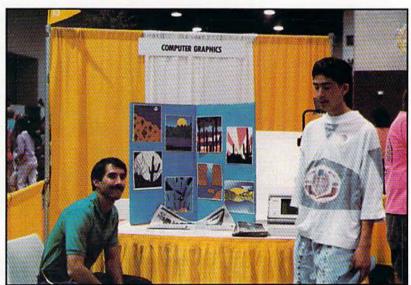
CONSTRUCTION
COMPANY
Host of the Careerfest 1991
Planning Committee
Mr. Dick Rizzo, President
Chief Executive Officer

MOTOROLA Mr. Lawrence Moore Manager Public Affairs

NORTH AMERICAN COLLEGE Mr. Jack King, President

SOUTHWEST GAS Mr. Tom Olson, Manager Human Resources





Students attending CAREERFEST '91 said:

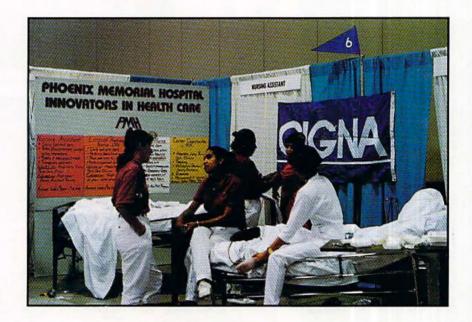
"It was cool!"

### Careerfest '91 was held Friday, May 3, 1991, at the Civic Plaza, Phoenix, AZ.



10,000 middle school students attended this career exploration event and viewed 168 "live" job skills demonstrations.





ARIZONA VOCATIONAL/TECHNOLOGICAL EDUCATION ON THE MOVE